

REMARKS

Introduction

Upon entry of the foregoing amendment, claims 1-16 are pending in the application. Claims 1 and 4 have been amended. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Entry of this Amendment After Final is proper under 37 C.F.R. §1.116 because the claim amendments: (a) place this application in condition for allowance (for the reasons discussed herein), (b) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution as indicated in the Final Office Action), (c) present the rejected claims in better form for consideration on appeal (should an appeal be necessary), and (d) are necessary and were not earlier presented because they are made in response to arguments raised in the Final Office Action.

Rejection under 35 USC §103

Claims 1-16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2003/0013057 to Aoe in view of US Patent No. 7,012,861 to Hong and further in view of US Patent No. 5,712,835 to Akiyama. However, Aoe, Hong, and Akiyama fail to render obvious Applicant's claims.

Independent claims 1, 4, 6, and 9

In particular, Aoe, Hong, and Akiyama fail to disclose or suggest "generating a track jump start control signal if it is judged that the position of the pickup at the time of the track jump command is within a reference range of the center of the track," as presently recited in claim 4, and in similar limitations of claims 1, 6, and 9. The Examiner has cited no portion of Aoe or Hong that discloses such a feature.

The Examiner states on page 8 of the Office Action, with respect to claims 6 and 9, that Hong discloses outputting a jump command if a controller determines that the current position of the optical pickup is "within a predetermined range." However, "within a predetermined range" is not the same as "within a reference range of the center of the track," as recited in Applicant's

claims. Nothing in either Aoe or Hong discloses or suggests determining whether to perform a jump operation based on a distance between an optical pickup and a center of a track.

The Examiner further states on page 8 of the Office Action that determining whether a pickup is at the end of a header area corresponds to the above limitation. However, detecting a location of a header and detecting a center of a track are not the same.

The "center" recited in Applicant's claims corresponds to a radial center of a track, or a center with respect to an inside edge closest to a rotation center of a disk and an outside edge closest to the outside edge of the disk. This is apparent from Applicant's specification and claims which recite determining a location of an optical pickup based on an "error signal." For example, Applicant's specification at paragraph 0036 describes a focus error FE and a tracking error TE that are used to generate a digital signal. However, the focus error signal and the tracking error signal are not generated based on a location of an optical pickup with respect to header, as described in Hong. Instead, these signals are generated based on a location of the optical pickup with respect to a surface of the disk and a radial center of a track. In other words, these signals are used to prevent the optical pickup from straying too far from a center of a track as it moves along the track.

On the other hand, a "header" is data that is recorded in defined radial arcs along the track, so that determining an end of the header would provide no information regarding the distance of the optical pickup from the center of the track, as defined in Applicant's claims. For example, Hong, col. 2, lines 45-50 describes headers that are "offset from the center of a track in an opposite direction to each other." However, the "center" described in Hong is not the center recited in Applicant's claims. Instead, while the "center" recited in Applicant's claims refers to a radial center, or a center with respect to a rotation center of the disk, the "center" of Hong refers to a center in the rotation direction of the disk, or a point between two headers.

Thus, Aoe and Hong fail to disclose or suggest "generating a track jump start control signal if it is judged that the position of the pickup at the time of the track jump command is within a reference range of the center of the track," as presently recited in claim 4, and in similar limitations of claims 1, 6, and 9. Nor would it have been obvious to one of ordinary skill in the art to modify Aoe and Hong to provide such a feature.

Hong describes detecting a location of an optical pickup with respect to a header so that a track zero crossing signal is not influenced by a header during a track jump. (See Hong, col. 8, lines 52-54) On the other hand, according to the features recited in Applicant's claims, determining a reference range to a center of a track may ensure that a jump is accurately carried out. For example, if an optical pickup is at an edge of a track and a jump is performed, an over-jump may occur. Nothing in Aoe or Hong describes any such feature or a similar benefit. Nor does any other disclosure of Aoe or Hong provide any motivation to one of ordinary skill in the art to modify the references to disclose each feature of Applicant's claims.

The Examiner further states on page 5 of the Office Action that Akiyama, at col. 4, lines 59-66, col. 7, lines 14-25, col. 8, lines 62-65, and col. 9, lines 6-11 discloses positioning a light spot in a center of a track before the start of a track jump. However, while Akiyama does describe positioning a light spot at a location with respect to a center of a track, Akiyama does not describe generating a track jump start control signal if it is judged that the position of the pickup at the time of the track jump command is within a reference range of the center of the track. None of the portions of Akiyama described by the Examiner disclose any such feature. Col. 4, lines 59-66 describe beginning a tracking operation "after the light spot made the first track jump." Col. 7, lines 14-25 describe controlling a tracking control unit to generate a tracking control signal "after a predetermined period of time has elapsed" since a signal is output to decelerate an optical pickup after a jump has occurred. Col. 8, lines 62-65 describe performing a tracking operation "after the first track jump... is conducted until the second track jump starts." Col. 9, lines 6-11 describes positioning a light spot at a center of a track before the start of the second track jump in a series of track jumps corresponding to a same track jump command. In other words, none of the above portions discloses generating a track jump start control signal if it is judged that the current position of the pickup at the time of the track jump command is within a reference range with respect to the center the track.

Nor do Aoe or Hong provide any teaching that may have motivated one of ordinary skill in the art to modify Aoe with the system described in Akiyama to provide the above feature. As discussed above, Aoe is silent regarding the above features, and Hong describes only detecting a header location, which has no relation to a center of a track.

For at least the foregoing reasons, Aoe, Hong, and Akiyama are inadequate grounds for

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rejecting Applicant's claims 1, 4, 6, and 9 under 35 U.S.C. § 103(a). Claims 2, 3, 5, 7, 8, and 10-16 depend from claims 1, 4, 6, and 9 and are likewise allowable over Aoe, Hong, and Akiyama. Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection and allow claims 1-16.

Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

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